

=> d his ful

(FILE 'HOME' ENTERED AT 09:20:03 ON 27 MAY 2008)

FILE 'REGISTRY' ENTERED AT 09:20:13 ON 27 MAY 2008

ACT NEL933B/A

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L1 STR  
L2 ( 1318)SEA SSS FUL L1  
L3 STR  
L4 188 SEA SUB=L2 SSS FUL L3

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L5 STR L1  
L6 STR L3  
ACT NEL933D/A

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L7 STR  
L8 ( 1318)SEA SSS FUL L7  
L9 STR  
L10 4 SEA SUB=L8 SSS FUL L9

-----

L11 STR L7  
L12 STR L9  
ACT NEL933E/A

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L13 STR  
L14 ( 1318)SEA SSS FUL L13  
L15 STR  
L16 1 SEA SUB=L14 SSS FUL L15

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L17 STR L15  
ACT NEL933G/Q

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L18 STR

-----

L19 0 SEA SSS SAM L18  
L20 0 SEA SSS FUL L18  
L21 STR L18  
D SAV  
ACT NEL933A/A

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L22 STR  
L23 1318 SEA SSS FUL L22

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L24 0 SEA SUB=L23 SSS SAM L18  
L25 STR L18

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L26      0 SEA SUB=L23 SSS SAM L25
L27      1 SEA SUB=L23 SSS FUL L25
          D SCA
          SAV L27 NEL933H/A
L28      STR L9
          D L9
          ACT NEL933F/Q
          -----
L29      STR
          -----
L30      STR L29
L31      0 SEA SUB=L23 SSS SAM L30
L32      0 SEA SUB=L23 SSS SAM L30
L33      STR
L34      50 SEA SSS SAM L33
          D RSD STR 1
          D RSD STR 2-4
L35      SCR 1954 OR 1918
L36      50 SEA SSS SAM L33 NOT L35
          D RSD STR 1-2
L37      16063 SEA 3593.5.31/RID
L38      21 SEA L37 AND L23
L39      STR L29
L40      0 SEA SUB=L23 SSS SAM L39
L41      0 SEA SUB=L23 SSS FUL L39
          D QUE L17
          D QUE L29
L42      STR L18
          SAV L42 NEL933I/Q
          D QUE
          D QUE L1
          D QUE L4
          D QUE L7
          D QUE L9
          D QUE L15

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FILE 'OCEAN, HCAPLUS' ENTERED AT 12:01:30 ON 27 MAY 2008

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L43      3450 SEA (WHITE?) (3A) (?OPTOELECT? OR OPTO (2A) ELECT? OR
          ?LIGHTEMITT? OR ?LIGHT (2A) EMITT? OR LIGHTEMISS? OR
          LIGHT (2A) EMISS? OR ELECTROLUMINESC? OR ELECTRO (2A)
          LUMINESC? OR LUMINESC? OR O (W) L (W) E (W) D OR L (W) E
          (W) D)
L44      3450 SEA (WHITE?) (3A) (?OPTOELECT? OR OPTO (2A) ELECT? OR
          ?LIGHTEMITT? OR ?LIGHT (2A) EMITT? OR LIGHTEMISS? OR
          LIGHT (2A) EMISS? OR ELECTROLUMINESC? OR ELECTRO (2A)
          LUMINESC? OR LUMINESC?)
L45      3449 SEA (WHITE?) (3A) (OPTOELECT? OR OPTO (2A) ELECT? OR

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NELSON 10/562,933

L46           542 SEA (WHITE?) (3A) (ORGANIC (2A) LIGHT? OR OLED#)  
L47           3509 SEA L45 OR L46

L48           FILE 'REGISTRY' ENTERED AT 12:14:42 ON 27 MAY 2008  
              8 SEA SSS SAM L3

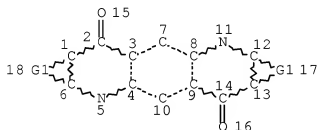
L49           FILE 'HCAPLUS' ENTERED AT 12:16:14 ON 27 MAY 2008  
              7 SEA L48

L50           FILE 'HCAPLUS' ENTERED AT 12:19:54 ON 27 MAY 2008  
              256 SEA L4  
L51           14 SEA L50 AND L47

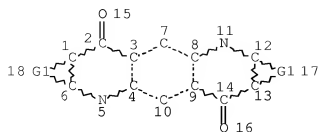
-----  
PARENT STRUCTURE

=> d que l1  
L1

STR

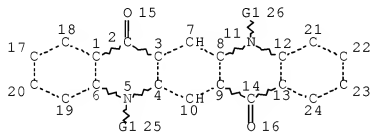


REP G1=(1-6) C  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED  
  
GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 18  
  
STEREO ATTRIBUTES: NONE



## FORMULA 4

L3 STR



Ak @31 Cb @34

Ak~Cb  
@38 39

VAR G1=31/34/38

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 31

CONNECT IS E1 RC AT 34

CONNECT IS E2 RC AT 38

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 31

GGCAT IS UNS AT 34

GGCAT IS SAT AT 38

GGCAT IS UNS AT 39

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L4 188 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

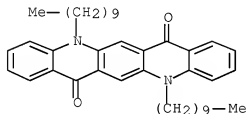
=> d 151 1-14 bib abs hitstr hitind

L51 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2008:146720 HCAPLUS Full-text  
DN 148:389862  
TI Novel White Electroluminescent Single Polymer  
Derived from Fluorene and Quinacridone  
AU Liu, Jun; Gao, Baoxiang; Cheng, Yanxiang; Xie, Zhiyuan; Geng,  
Yanhou; Wang, Lixiang; Jing, Xiabin; Wang, Fosong  
CS State Key Laboratory of Polymer Physics and Chemistry, Changchun  
Institute of Applied Chemistry, Chinese Academy of Sciences,  
Changchun, 130022, Peop. Rep. China  
SO Macromolecules (Washington, DC, United States) (2008), 41(4),  
1162-1167  
CODEN: MAMOBX; ISSN: 0024-9297  
PB American Chemical Society  
DT Journal  
LA English  
AB A novel series of white light emitting single polymers are prepared  
by incorporating low contents of quinacridone into the main chain of  
polyfluorene. This is the first report of quinacridone-containing  
conjugated polymer. Single layer devices  
(ITO/PEDOT:PSS/polymer/Ca/Al) are fabricated with these polymers.  
Energy transfer from fluorene segments to quinacridone unit is  
observed. Moreover, in the EL process, quinacridone unit can trap  
electrons and cannot trap holes from fluorene segments.  
Electroluminescence (EL) spectra of these polymers exhibit  
simultaneous blue emission ( $\lambda_{\text{max}} = 425 \text{ nm}/445 \text{ nm}$ ) from the fluorene  
segments and yellow emission ( $\lambda_{\text{max}} = 540 \text{ nm}/580 \text{ nm}$ ) from the  
quinacridone unit. The latter one comes from the partial energy  
transfer and charge trapping from the fluorene segments to the  
quinacridone unit. With the increase of the quinacridone unit's  
content in the copolymers, the relative intensity of the orange  
emission band in the EL spectra becomes stronger owing to the more  
complete energy transfer and charge trapping. For the polymer  
(PFQA3) with the quinacridone unit's content of 0.03 mol %, its EL  
spectrum shows balanced intensities of blue emission and orange  
emission, leading to white emission with CIE coordinates of (0.27,  
0.35). Single layer device of this polymer exhibits the turn-on  
voltage of 3.5 V, luminous efficiency of 3.47 cd/A, power efficiency  
of 2.18 lm/W, external quantum efficiency of 1.33% and maximum  
brightness of 9062 cd/m<sup>2</sup>. Increase of the quinacridone unit's  
content results in increased turn-on voltages and decreased EL  
efficiencies of the resulting devices owing to the serious trap of  
electrons by quinacridone unit and exciton quenching of quinacridone  
unit at high concentration, resp.  
IT 395074-35-3P 1013400-07-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (novel white electroluminescent single  
 polymer derived from fluorene and quinacridone)

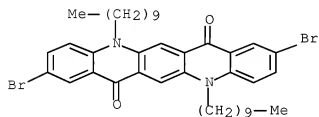
RN 395074-35-8 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-didecyl-5,12-dihydro- (CA  
 INDEX NAME)



RN 1013400-07-1 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 2,9-dibromo-5,12-didecyl-5,12-  
 dihydro- (CA INDEX NAME)



IT 1013400-08-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (novel white electroluminescent single  
 polymer derived from fluorene and quinacridone)

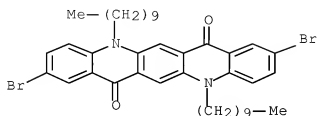
RN 1013400-08-2 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 2,9-dibromo-5,12-didecyl-5,12-  
 dihydro-, polymer with 2,2'-(9,9-dioctyl-9H-fluorene-2,7-  
 diyl)bis[1,3,2-dioxaborinane] (CA INDEX NAME)

CM 1

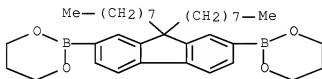
NELSON 10/562,933

CRN 1013400-07-1  
CMF C40 H50 Br2 N2 O2



CM 2

CRN 317802-08-7  
CMF C35 H52 B2 O4



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 36, 38, 76

IT Luminescent substances

(electroluminescent; novel white

electroluminescent single polymer derived from fluorene and quinacridone)

IT Electric current-potential relationship

Electroluminescence

Electroluminescent devices

Luminescence

UV and visible spectra

(novel white electroluminescent single

polymer derived from fluorene and quinacridone)

IT 395074-35-8P 1013400-07-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (novel white electroluminescent single  
 polymer derived from fluorene and quinacridone)

IT 1013400-08-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (novel white electroluminescent single  
 polymer derived from fluorene and quinacridone)

IT 1047-16-1 198964-46-4, 2,7-Dibromo-9,9-dioctylfluorene  
 317802-08-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (novel white electroluminescent single  
 polymer derived from fluorene and quinacridone)

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L51 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:858133 HCAPLUS Full-text

DN 147:265428

TI White-light emitting organic  
 electroluminescent device with high luminous efficiency and  
 color purity

IN Qiu, Yong; Wu, Kongwu

PA Tsinghua University, Peop. Rep. China; Beijing Visionox Technology  
 Co., Ltd.

SO Faming Zhuangli Shenqing Gongkai Shuomingshu, 18pp.  
 CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	
PI	CN 101009363	A	20070801	CN 2007-10063410	200701 31

PRAI CN 2007-10063410 20070131

AB The title electroluminescent device comprises a cathode layer, an  
 anode layer, and multiple organic layers between the cathode layer  
 and the anode layer resp. comprising multiple light emitting layers  
 different in luminous efficiency, wherein interface is formed between  
 light emitting layers, and the multiple light emitting layers are  
 arranged in a manner that the higher the luminous efficiency is, the  
 closer the light emitting layer is located to the interface with  
 lower carrier distribution d. By arranging the positions of light



emitting layers, the electroluminescent device has high luminous efficiency and color purity.

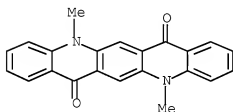
IT 19205-19-7, DMQA

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(white-light emitting organic electroluminescent device with high luminous efficiency and color purity)

RN 19205-19-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST white light electroluminescent device luminous efficiency color purity

IT Electroluminescent devices

(white-light emitting organic electroluminescent device with high luminous efficiency and color purity)

IT Glass, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(white-light emitting organic electroluminescent device with high luminous efficiency and color purity)

IT 878-23-9, 2-Bromo-1-ethyl pyridinium tetrafluoroborate

RL: MOA (Modifier or additive use); USES (Uses)

(dopant, white-light emitting organic electroluminescent device with high luminous efficiency and color purity)

IT 517-51-1, Rubrene 80663-92-9 142289-08-5, DPVBi 155306-71-1, c545t 200052-70-6, DCJTb

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(dopant, white-light emitting organic

electroluminescent device with high luminous efficiency  
and color purity)

IT 2085-33-8, Alq3 58328-31-7, CBP  
RL: TEM (Technical or engineered material use); USES (Uses)  
(dopant, white-light emitting organic  
electroluminescent device with high luminous efficiency  
and color purity)

IT 19205-19-7, DMQA  
RL: MOA (Modifier or additive use); TEM (Technical or engineered  
material use); USES (Uses)  
(white-light emitting organic  
electroluminescent device with high luminous efficiency  
and color purity)

IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses  
123847-85-8, NPB 148791-49-5, Indium titanium oxide 274905-73-6,  
TBADN  
RL: TEM (Technical or engineered material use); USES (Uses)  
(white-light emitting organic  
electroluminescent device with high luminous efficiency  
and color purity)

L51 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:432131 HCAPLUS Full-text

DN 146:411194

TI Fluorescent compounds showing high-purity white emission  
and electroluminescent devices therewith

IN Nakaya, Tadao; Sato, Mikura; Kodera, Toshihiro; Takano, Shinji; Eto,  
Naonobu

PA Hirose Engineering Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 56pp.

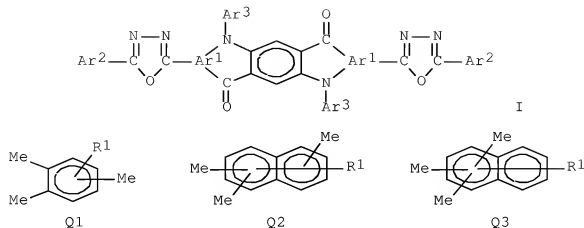
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	
PI	JP 2007099723	A	20070419	JP 2005-294228	200510 06
PRAI	JP 2005-294228		20051006		
OS	MARPAT 146:411194				
GI					



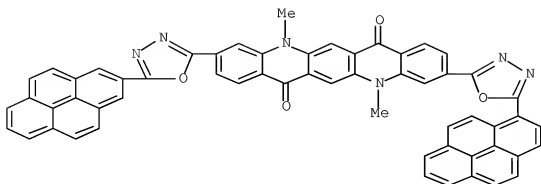
AB The title compds. are represented by I [Ar1 = aromatic group chosen from Q1-Q3 (R1 = C1-10 alkyl, carboxylic acid; each numbered bond connects to prescribed atoms of the compds.); Ar2 = (un)substituted Ph, naphthalenyl, fluorenyl, pyrenyl, or perylenyl; Ar3 = H, CH2Ar4 [Ar4 = H, C1-10-alkyl-(un)substituted Ph, naphthalenyl, anthracenyl, fluorenyl, pyrenyl, perylenyl]]. Electroluminescent devices containing the compds. in emitting layers between a pair of electrodes, are also claimed. The devices show high brightness, high white-color purity, and long service life.

IT 933783-28-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(emitting layers; quinacridone- or oxadiazoline-type white-emitting fluorescent compds. for long-life and high-color-purity electroluminescent devices)

RN 933783-28-9 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl-3-[5-(1-pyrenyl)-1,3,4-oxadiazol-2-yl]-10-[5-(2-pyrenyl)-1,3,4-oxadiazol-2-yl]- (CA INDEX NAME)



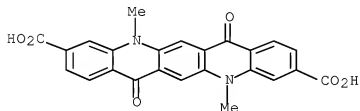
IT 933783-34-7P 933783-35-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(quinacridone- or oxadiazoline-type white-emitting fluorescent compds. for long-life and high-color-purity electroluminescent devices)

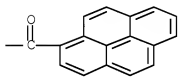
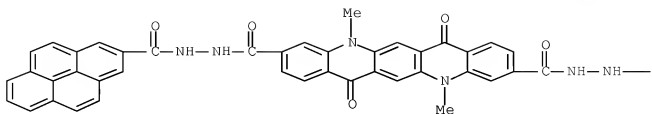
RN 933783-34-7 HCAPLUS

CN Quino[2,3-b]acridine-3,10-dicarboxylic acid, 5,7,12,14-tetrahydro-5,12-dimethyl-7,14-dioxo- (CA INDEX NAME)



RN 933783-35-8 HCAPLUS

CN Quino[2,3-b]acridine-3,10-dicarboxylic acid, 5,7,12,14-tetrahydro-5,12-dimethyl-7,14-dioxo-, 3-[2-(1-pyrenylcarbonyl)hydrazide] 10-[2-(2-pyrenylcarbonyl)hydrazide] (CA INDEX NAME)



- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 27
- IT 933783-28-9P 933783-29-0P 933783-30-3P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(emitting layers; quinacridone- or oxadiazoline-type white-emitting fluorescent compds. for long-life and high-color-purity electroluminescent devices)
- IT 913734-46-0P 933783-31-4P 933783-32-5P 933783-33-6P  
933783-34-7P 933783-35-8P 933783-36-9P  
933783-37-0P 933783-38-1P 933783-39-2P 933783-40-5P  
933783-41-6P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(quinacridone- or oxadiazoline-type white-emitting fluorescent compds. for long-life and high-color-purity electroluminescent devices)
- L51 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2007:14105 HCAPLUS [Full-text](#)  
DN 146:111405  
TI White light tandem OLED display with color

## filters

IN Hatwar, Tukaram K.; Boroson, Michael L.; Spindler, Jeffrey P.  
 PA Eastman Kodak Company, USA  
 SO U.S. Pat. Appl. Publ., 39pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	US 20070001587	A1	20070104	US 2005-170681	20050629
	WO 2007005200	A1	20070111	WO 2006-US22711	20060608
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP	1900008	A1	20080319	EP 2006-772855	20060608

R: DE, GB, NL

PRAI US 2005-170681 A 20050629  
 WO 2006-US22711 W 20060608

AB A tandem OLED device having spaced electrodes includes broadband light-emitting units disposed between the electrodes that produce different emission spectra and each light-emitting unit produces light that has multiple spaced peak spectral components, and an intermediate connector disposed between each of the light-emitting units, where the device also includes an array of at least three different color filters which receives light from the broadband light-emitting units, the band pass of each of the color filters being selected to produce different colored light, where the full width at about half maximum of at least one of such spaced peak spectral components produced by each emitting unit is in the band pass of a color filter, and where each of the at least three

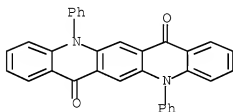
different color filters receives at least one spaced peak spectral component having a full width at about half maximum that is in its band pass.

IT 221455-80-7

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(green-emitting dopant; white light  
tandem OLED display with color filters)

RN 221455-80-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-diphenyl- (CA  
INDEX NAME)



INCL 313504000; 313506000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 73, 76

ST tandem OLED electroluminescent display color filter  
white light

IT Optical imaging devices  
(color; white light tandem OLED display with  
color filters)

IT Electroluminescent devices  
(displays; white light tandem OLED display  
with color filters)

IT Luminescent screens  
(electroluminescent; white light tandem  
OLED display with color filters)

IT Electroluminescent devices  
(organic; white light tandem OLED display with  
color filters)

IT Optical filters  
(white light tandem OLED display with color  
filters)

IT Light  
(white; white light tandem OLED)

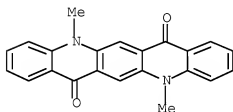
display with color filters)  
 IT 7439-93-2, Lithium, properties 676120-56-2  
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (dopant; white light tandem OLED display with color filters)  
 IT 221455-80-7  
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (green-emitting dopant; white light tandem OLED display with color filters)  
 IT 175606-05-0  
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (red-emitting dopant; white light tandem OLED display with color filters)  
 IT 1662-01-7, Bphen 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 105598-27-4 123847-85-8, NPB 862501-00-6  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (white light tandem OLED display with color filters)  
 IT 850797-15-8  
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (yellow-emitting dopant; white light tandem OLED display with color filters)

L51 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2006:1104028 HCAPLUS Full-text  
 DN 145:446044  
 TI Full-wavelength white light organic electroluminescent device with single luminous layer  
 IN Chu, Chien-Tsi; Lin, Kuo-Sen; Chang, Chun-Chin  
 PA Wintek Corporation, Taiwan  
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 18pp.  
 CODEN: CNXXEV  
 DT Patent  
 LA Chinese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	
PI	CN 1711002	A	20051221	CN 2004-10049937	20040617
PRAI	CN 2004-10049937		20040617		



- AB The title organic electroluminescent device includes (from bottom to top) a transparent conducting substrate as an anode, a hole transport layer, a luminous layer, an electron transport layer, and a cathode, wherein the luminous layer is made of a blue light host material containing green and red light host/guest dye as the host or guest light-emitting material to jointly form blue, green and red light sources. With the invention, a full-wavelength (ranging from 480 nm to 630 nm) white light organic electroluminescent device with consistent blue, green and red light intensity is obtained by simple process.
- IT 19205-19-7, DMQA  
 RL: DEV (Device component use); USES (Uses)  
 (full-wavelength white light organic  
 electroluminescent device with single luminous layer)
- RN 19205-19-7 HCAPLUS
- CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA  
 INDEX NAME)



- IC ICM H05B033-14  
 ICS H05B033-22; C09K011-06
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 76
- ST full wavelength white light org electroluminescent device
- IT Electroluminescent devices  
 (organic; full-wavelength white light organic  
 electroluminescent device with single luminous layer)
- IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 19205-19-7, DMQA  
 25067-59-8, Poly(N-vinylcarbazole) 38215-36-0, Coumarin 6  
 51325-91-8 142289-08-5, DPVBi 146162-54-1 155306-71-1, Coumarin 545T 200052-70-6  
 RL: DEV (Device component use); USES (Uses)  
 (full-wavelength white light organic

electroluminescent device with single luminous layer)

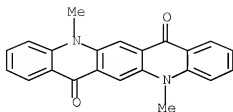
L51 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2006:434351 HCAPLUS Full-text  
 DN 144:458216  
 TI Whole-wavelength white-light organic  
 electroluminescent device and its manufacturing method  
 IN Ju, Jian-Tsz; Lin, Guo-Sen; Jang, Jiun-Chin  
 PA Wintek Corporation, Taiwan  
 SO Taiwan., 6 pp.  
 CODEN: TWXXA5  
 DT Patent  
 LA Chinese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	TW 226809	B	20050111	TW 2004-93112349	20040503

PRAI TW 2004-93112349 20040503

AB The present invention is related to a whole-wavelength white -light organic electroluminescent device and its manufacturing method. Between the transparent conducting substrate for the anode and the corresponding cathode, the hole transporting layer, light-emitting layer, hole blocking layer, the electron transporting layer and the electron injection layer are disposed. The light-emitting layer is composed of a blue-light material containing the green-light dye of the light-emitting main-body material inside so as to form the light-emitting layer of light source that emits blue (B) and green (G) light. A red-light dye of light-emitting main-body material is doped inside the hole blocking layer so as to make the hole blocking layer capable of emitting red (R) light-source. A whole-wavelength white-light light-emitting apparatus having higher doping concentration capable of emitting light wavelength from 450 nm to 630 nm with equivalent intensity is manufactured and is provided with no change of light color due to the effect of minute concentration variation.

IT 19205-19-7, Dmqa  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (whole-wavelength white-light organic electroluminescent device and its manufacturing method)  
 RN 19205-19-7 HCAPLUS  
 CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



IC ICM H05B033-00  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST white light org electroluminescent device manuf  
 IT Light  
     (white; whole-wavelength white-light organic  
     electroluminescent device and its manufacturing method)  
 IT Electroluminescent devices  
     Luminescence, electroluminescence  
     (whole-wavelength white-light organic  
     electroluminescent device and its manufacturing method)  
 IT 2085-33-8, Alq3 4733-39-5, Bcp 15082-28-7, Pbd  
     19205-19-7, Dmqa 25067-59-8, Poly(N-vinylcarbazole)  
     38215-36-0, Coumarin6 51325-91-8, Dcm 51325-95-2, Dcm2  
     142289-08-5, Dpvbi 146162-54-1, Balq 150405-69-9, Taz  
     155306-71-1, Coumarin545t 192198-85-9, Tpb 200052-70-6, Dcjtbb  
 RL: DEV (Device component use); TEM (Technical or engineered  
 material use); USES (Uses)  
     (whole-wavelength white-light organic  
     electroluminescent device and its manufacturing method)

L51 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2005:1026523 HCAPLUS Full-text  
 DN 143:335928  
 TI White organic light-emitting  
     devices with improved performance with hole-transporting layers  
     containing light-emitting naphthacene derivatives  
 IN Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju;  
     Andrievsky, Natasha  
 PA USA  
 SO U.S. Pat. Appl. Publ., 49 pp.  
     CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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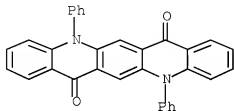
PI	US 20050208327	A1	20050922	US 2004-801997	200403 16
	WO 2005093008	A1	20051006	WO 2005-US6823	200503 02
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP	1725631	A1	20061129	EP 2005-724382	200503 02
EP	1725631	B1	20080423		
	R: DE, FR, GB				
JP	2007529597	T	20071025	JP 2007-503929	200503 02
KR	2007010004	A	20070119	KR 2006-718888	200609 14
PRAI	US 2004-801997	A	20040316		
	WO 2005-US6823	W	20050302		
OS	MARPAT 143:335928				
AB	Organic light-emitting diodes producing white light comprising an anode, a hole-transporting layer disposed over the anode, a blue light-emitting layer disposed over the hole-transporting layer, an electron-transporting layer disposed over the blue light-emitting layer, and a cathode disposed over the electron-transporting layer are described in which the hole-transporting layer comprises an entire layer or a partial portion of a layer in contact with the blue light-emitting layer and contains a selected light-emitting naphthalene derivative (especially a rubrene derivative).				
IT	221455-80-7 574749-25-0				
	RL: DEV (Device component use); USES (Uses) (white organic light-emitting devices with hole-transporting layers containing light-emitting				

naphthacene

derivs.)

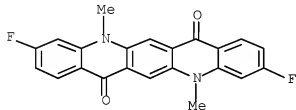
RN 221455-80-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-diphenyl- (CA INDEX NAME)



RN 574749-25-0 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 3,10-difluoro-5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 428332000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 76

ST rubrene deriv white org electroluminescent

device hole transporting layer; naphthacene deriv white

org electroluminescent device hole transporting layer

IT Electroluminescent devices

(organic; white organic light-emitting

devices with hole-transporting layers containing light-emitting naphthacene derivs.)

## IT Luminescent substances

(white organic light-emitting devices

with hole-transporting layers containing light-emitting

naphthacene

derivs.)

IT 147-14-8, Copper phthalocyanine 1428-67-7D, DPN, derivs.

7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses

11099-20-0 12798-95-7 23786-72-3 37271-44-6 42029-62-9

51311-17-2, Carbon fluoride 55035-43-3 55035-43-3D, derivs.

80663-92-9, 2,5,8,11-Tetra-tert-butyl perylene 122648-99-1

122648-99-1D, derivs. 123847-85-8, NPB 124729-98-2, m-MTDATA

155306-71-1, C545T 221455-80-7 256425-63-5, C545TB

274905-73-6 274905-73-6D, derivs. 574749-25-0

676120-51-7 676120-52-8 676120-53-9 676120-54-0 676120-55-1

676120-56-2 676120-57-3 676120-58-4 676120-59-5 676120-60-8

862501-00-6 862501-00-6D, derivs.

RL: DEV (Device component use); USES (Uses)

(white organic light-emitting devices

with hole-transporting layers containing light-emitting

naphthacene

derivs.)

IT 118769-17-8 682806-51-5 850755-32-7 850755-33-8 850755-34-9

850755-36-1 850755-40-7 850755-41-8 850755-42-9 850755-44-1

850755-45-2 850755-46-3 850765-58-1 850765-59-2 850765-60-5

850765-61-6 850765-62-7 850765-63-8 850765-64-9 850765-67-2

850765-68-3 850765-70-7 850765-71-8 850797-15-8 850797-16-9

850797-17-0 850797-18-1 850797-19-2 850797-20-5 850797-21-6

850797-22-7 850797-23-8 850797-24-9 850797-25-0 850833-50-0

850833-51-1 865093-41-0

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(white organic light-emitting devices

with hole-transporting layers containing light-emitting

naphthacene

derivs.)

IT 850797-14-7P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN

(Synthetic preparation); PREP (Preparation); USES (Uses)

(white organic light-emitting devices

with hole-transporting layers containing light-emitting

naphthacene

derivs.)

IT 772-38-3 15796-82-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(white organic light-emitting devices

with hole-transporting layers containing light-emitting

naphthacene

derivs.)  
 IT 850797-13-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (white organic light-emitting devices  
 with hole-transporting layers containing light-emitting  
 naphthalene  
 derivs.)

L51 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2005:14398 HCAPLUS Full-text  
 DN 142:102856  
 TI White-emitting compounds, process for the production thereof, and  
 white-emitting devices  
 IN Nakaya, Tadao; Ikeda, Atsushi; Sato, Mitsukura; Saikawa, Tomoyuki  
 PA Hirose Engineering Co., Ltd., Japan  
 SO PCT Int. Appl., 121 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005000847	A1	20050106	WO 2004-JP8871	20040624
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005035965	A	20050210	JP 2003-298589	20030822
EP 1650208	A1	20060426	EP 2004-746340	20040624
R: DE, FR, GB				
CN 1802374	A	20060712	CN 2004-80015138	

200406  
24

US 20060152143

A1

20060713

US 2005-562933

200512  
30

PRAI JP 2003-188972

A

20030630

JP 2003-298589

A

20030822

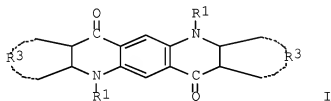
WO 2004-JP8871

W

20040624

OS MARPAT 142:102856

GI



AB The invention provides white-emitting compds. which are novel substances capable of emitting white light in spite of their being single compds., a process by which such novel white-emitting compds. can be easily produced; and white-emitting devices containing the single white-emitting compds. The white-emitting compds. are characterized by being I wherein R1 is H, C1-10 alkyl, or specific aryl with the proviso that the case wherein both R1's are H is excluded, and R3 is the residue derived from (un)substituted benzene, naphthalene, anthracene and pyrene.

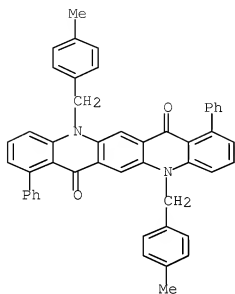
IT 817204-63-0P 817204-73-2P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(white-emitting compds. for electroluminescent device)

RN 817204-63-0 HCAPLUS

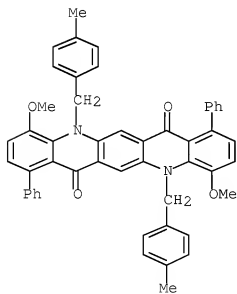
CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-bis[(4-methylphenyl)methyl]-1,8-diphenyl- (CA INDEX NAME)





RN 817204-73-2 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-4,11-dimethoxy-5,12-bis[(4-methylphenyl)methyl]-1,8-diphenyl- (CA INDEX NAME)



IC ICM C07D471-04  
ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 27

ST white emitting compd electroluminescent device

IT Electroluminescent devices  
Luminescent substances  
(white-emitting compds. for electroluminescent device)

IT 56571-57-4P 817204-63-0P 817204-66-3P 817204-70-9P  
817204-73-2P 817204-75-4P 817204-79-8P 817204-80-1P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(white-emitting compds. for electroluminescent device)

IT 104-82-5,  $\alpha$ -Chloro-p-xylene 134-32-7, 1-Naphthylamine  
613-13-8, 2-Aminoanthracene 2243-47-2, 3-Aminobiphenyl  
6310-21-0, 2-tert-Butylaniline 27712-87-4 33228-44-3,  
4-n-Pentylaniline 37529-27-4, 4-n-Heptylaniline 39811-17-1,  
3-Amino-4-methoxybiphenyl  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(white-emitting compds. for electroluminescent device)

IT 103164-74-5P 736992-37-3P 736992-38-4P 736992-42-0P  
736992-44-2P 817204-60-7P 817204-61-8P 817204-62-9P  
817204-64-1P 817204-65-2P 817204-67-4P 817204-68-5P  
817204-69-6P 817204-71-0P 817204-72-1P 817204-74-3P  
817204-76-5P 817204-77-6P 817204-78-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(white-emitting compds. for electroluminescent device)

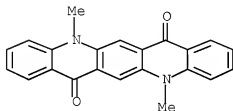
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L51 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2004:740658 HCAPLUS Full-text  
DN 141:268186  
TI Organic electroluminescent devices having longer device life  
IN Nagara, Yoshiaki; Murasaki, Takanori; Mori, Kenji; Yamamoto, Ichiro;  
Kato, Yoshifumi; Kawasaki, Shintaro; Takeuchi, Kazuyoshi  
PA Kabushiki Kaisha Toyota Jidoshokki, Japan  
SO PCT Int. Appl., 84 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2004077886	A1	20040910	WO 2004-JP2330	200402 27
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	TW 265750	B	20061101	TW 2004-93104914	200402 26
	EP 1613132	A1	20060104	EP 2004-715509	200402 27
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1781340	A	20060531	CN 2004-80011324	200402 27
	US 20060214553	A1	20060928	US 2005-547211	200508 26
PRAI	JP 2003-50570	A	20030227		
	JP 2003-132459	A	20030512		
	WO 2004-JP2330	W	20040227		
AB	An organic electroluminescent device having a longer device life than conventional ones is disclosed in which at least a light-emitting layer, an electron injecting/transporting layer and a cathode are formed on an anode. An organic electroluminescent device having better whiteness, higher luminous efficiency, and a longer device life than conventional ones and a color display using such an organic electroluminescent device are also disclosed. A hole injecting/transporting layer, a light-emitting layer, a nonluminous layer, an electron injecting/transporting layer, and a cathode are sequentially formed on an anode. In another case, a hole injecting layer, a hole transporting layer, a red light-emitting layer, a blue light-emitting layer, an electron transporting layer, an electron injecting layer, and a cathode are sequentially formed on an anode.				

IT 19205-19-7, N,N'-Dimethylquinacridone  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (organic electroluminescent devices having longer device life)  
 RN 19205-19-7 HCAPLUS  
 CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



IC ICM H05B033-14  
 ICS H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 22, 76  
 IT 190-86-3 192-59-6, Dibenzo[fg,st]pentacene 193-11-3,  
 Dibenzo[de,uv]pentacene 19205-19-7, N,N'-  
 Dimethylquinacridone 20811-66-9 38215-36-0 158604-97-8  
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
 (organic electroluminescent devices having longer device life)  
 RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

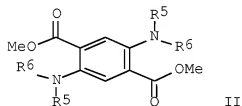
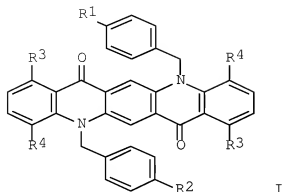
L51 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2004:390248 HCAPLUS Full-text  
 DN 140:391210  
 TI Preparation of quinacridone as white organic fluorescent compound  
 IN Nakaya, Tadao; Ikeda, Atsushi; Sudoh, Hisashi  
 PA Hirose Engineering Co., Ltd., Japan  
 SO PCT Int. Appl., 39 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI    WO 2004039805          A1      20040513      WO 2003-JP13598
                                           200310
                                           24
      W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
          CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
          GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC,
          LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI,
          NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
          SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
          ZM, ZW
      RW:  GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
          BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
          EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
          SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
          NE, SN, TD, TG
JP 2004149433          A      20040527      JP 2002-315110
                                           200210
                                           29
AU 2003275639          A1      20040525      AU 2003-275639
                                           200310
                                           24
EP 1564216            A1      20050817      EP 2003-758859
                                           200310
                                           24
      R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
          PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
          SK
CN 1705666            A      20051207      CN 2003-80101936
                                           200310
                                           24
US 20060004201        A1      20060105      US 2005-532994
                                           200504
                                           28
PRAI JP 2002-315110      A      20021029
WO 2003-JP13598        W      20031024
OS  MARPAT 140:391210
GI

```



AB The title compds. I [R1, R2 = alkyl, alkoxy; R3, R4 = alkyl] were prepared For example, a solution of compound II [R5 = 2,5-dimethylphenyl; R6 = H] (3.0 g), e.g., prepared from 2,5-dihydroxy-1,4- dimethoxycarbonyl-1,4-cyclohexadiene in 2-steps, and 4-methylbenzyl chloride (5.9 g) in DMF (200 mL) was stirred at 160 °C for 2-h. After standing at room temperature for 2-d, basic work-up afforded compound II [R5 = 2,5-dimethylphenyl; R6 = 4-MePh] (0.45 g). The acid mediated cyclization of compound II [R5 = 2,5-dimethylphenyl; R6 = 4-MePh] using TsOH at 160 °C for 20-h, furnished claimed compound I [R1, R2, R3, R4 = Me] 0.05 g. Of note, compds. I exhibited fluorescence ranging from 400 to 650 nm. Compds. I are useful for organic electro luminescent (EL) materials, display, etc., as white organic fluorescent compound

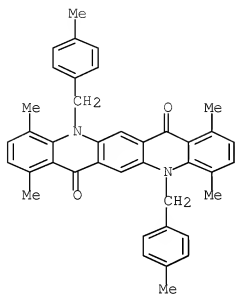
IT 686767-19-1P 686767-20-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of quinacridone as white organic fluorescent compound)

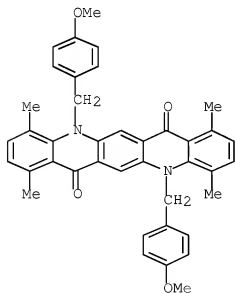
RN 686767-19-1 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-1,4,8,11-tetramethyl-5,12-bis[(4-methylphenyl)methyl]- (CA INDEX NAME)



RN 686767-20-4 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-bis[(4-methoxyphenyl)methyl]-1,4,8,11-tetramethyl- (CA INDEX NAME)



NELSON 10/562,933

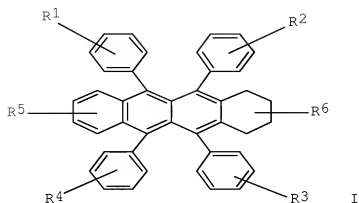
IC ICM C07D471-04  
ICS C09K011-06; H05B033-14  
CC 27-18 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 73  
ST quinacridone prepn white org fluorescent compd; org electro  
luminescence EL quinacridone prepn white  
fluorescent compd; display quinacridone prepn white org fluorescent  
compd  
IT 686767-19-1P 686767-20-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of quinacridone as white organic fluorescent  
compound)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L51 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2004:252040 HCAPLUS Full-text  
DN 140:311689  
TI White organic light-emitting  
devices with improved performance  
IN Hatwar, Tukaram K.  
PA Eastman Kodak Company, USA  
SO U.S. Pat. Appl. Publ., 34 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO. ----- -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
PI	US 20040058193	A1	20040325	US 2002-244314	200209 16
	JP 2004134396	A	20040430	JP 2003-323021	200309 16
	CN 1496208	A	20040512	CN 2003-158687	200309 16
PRAI	US 2002-244314	A	20020916		
OS	MARPAT 140:311689				
GI					





AB An white-light organic light-emitting diode (OLED) device is described comprising, in order, an anode; a hole-transporting layer; a doped blue light-emitting layer; an electron-transporting layer a cathode; and the hole-transporting layer and/or electron-transporting layer, selectively doped with the compound of general formula I which emits light in the yellow region of the spectrum which corresponds to an entire layer or a partial portion of a layer in contact with the blue light-emitting layer; wherein R1-R6 represent one or more substituents on each ring where each substituent is individually selected from (1)H, or alkyl C1-C24; (2) (substituted)aryl of C5-C20; (3)C4-C24 necessary to complete a fused aromatic ring of naphthyl, anthracenyl, phenanthryl, pyrenyl, or perylenyl; (4)heteroaryl or substituted heteroaryl of C5-C24 such as thiazolyl, furyl, thienyl, pyridyl, quinolinyl or other heterocyclic systems, which may be bonded via a single bond, or may complete a fused heteroarom. ring system; (5)alkoxylamino, alkylamino, or arylamino of C1-C24; or (6) fluorine, chlorine, bromine or cyano, except R5 and R6 do not form a fused ring, and at least one of the substituents R1, R2, R3, and R4 are substituted with a group other than H.

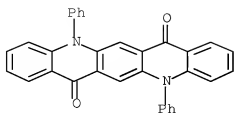
IT 221455-80-7 574749-25-0

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

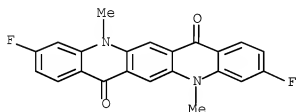
(green emitting dopant; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)

RN 221455-80-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-diphenyl- (CA INDEX NAME)



RN 574749-25-0 HCAPLUS  
 CN Quino[2,3-b]acridine-7,14-dione, 3,10-difluoro-5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



IC ICM H05B033-14  
 INCL 428690000; 428917000; 428332000; 313504000; 313506000; 313112000;  
 257098000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 76  
 ST white light org light emitting  
 device super rubrene  
 IT Electroluminescent devices  
 (white organic light-emitting devices  
 using super rubrenes organic yellow emitting material with  
 improved performance)  
 IT Light  
 (white, LED; white organic light-  
 emitting devices using super rubrenes organic yellow  
 emitting material with improved performance)  
 IT 55035-43-3 676120-51-7 676120-52-8 676120-53-9 676120-54-0  
 676120-55-1 676120-56-2 676120-57-3  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES

- (Uses)  
 (blue emitting dopant; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 122648-99-1 274905-73-6  
 RL: DEV (Device component use); USES (Uses)  
 (blue emitting host material; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 126-73-8, TBP, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (blue emitting; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride (LiF), uses 11099-20-0 12798-95-7 37271-44-6  
 RL: DEV (Device component use); USES (Uses)  
 (cathode; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 155306-71-1, C 545T 256425-63-5, C545TB  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (green dopant; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 23786-72-3 42029-62-9 221455-80-7 574749-25-0 676120-58-4 676120-59-5 676120-60-8  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (green emitting dopant; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 147-14-8, Copper Phthalocyanine 51311-17-2, Carbon fluoride 124729-98-2  
 RL: DEV (Device component use); USES (Uses)  
 (hole injecting layer; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 123847-85-8, NPB  
 RL: DEV (Device component use); USES (Uses)  
 (hole transporting layer; white organic light-emitting devices using super rubrenes organic yellow emitting material with improved performance)
- IT 2085-33-8, Alq3  
 RL: DEV (Device component use); USES (Uses)

(white organic light-emitting devices  
 using super rubrenes organic yellow emitting material with  
 improved performance)  
 IT 374592-94-6 478799-44-9  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES  
 (Uses)  
 (yellow emitting dopant; white organic light-  
 emitting devices using super rubrenes organic yellow  
 emitting material with improved performance)

L51 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:154836 HCAPLUS Full-text

DN 138:212577

TI Organic electroluminescent devices employing plurality of organic  
 layers selected so that the host organic material of the hole  
 transport layer is prevented from deteriorating

IN Suzuki, Harumi; Kato, Tetsuya

PA Denso Corp., Japan

SO U.S. Pat. Appl. Publ., 17 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	US 20030038287	A1	20030227	US 2002-227458	200208 26
	US 6750472	B2	20040615		
	JP 2003151776	A	20030523	JP 2002-154102	200205 28
PRAI	JP 2001-256144	A	20010827		
	JP 2002-154102	A	20020528		

AB Organic electroluminescent devices are described which comprise  
 sequentially stacked anode; hole-transport layer; electron-capture  
 layer; luminescent layer; and cathode, where the luminescent layer  
 includes a host organic material, the luminescent spectrum of which  
 has a peak between 380 nm and 510 nm, and a guest fluorescent dye.  
 Organic electroluminescent device are described which comprise  
 sequentially stacked anode; hole-transport layer, which includes a  
 dopant that is not fluorescent; luminescent layer including a host  
 organic material with luminescence maximum between 380 nm and 510 nm,  
 and a guest fluorescent dye; and cathode, where the lowest energy  
 level in the conduction band of the dopant is lower than that of the

host organic material of the luminescent layer. Organic electroluminescent devices are described which comprise an anode; a cathode; a hole transport layer; a first luminescent layer, which includes a guest fluorescent dye and a host organic material; and a second luminescent layer, which includes a guest fluorescent dye and a host organic material, where the host organic material of the second luminescent layer includes a first electron transport material and the luminescent spectrum of the host organic material of the second luminescent layer has a peak between 380 nm and 510 nm, where the hole transport layer, the first luminescent layer, and the second luminescent layer are sequentially stacked in this order between the anode and the cathode in the direction toward the cathode, where the host organic material of the first luminescent layer includes a hole transport material and a second electron transport material, where the hole transport material has a luminescent spectrum that has a peak between 380 nm and 510 nm, and where the lowest energy level in the conduction band of the second electron transport material is lower than that of the first electron transport material.

IT 19205-19-7, Dimethylquinacridone

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)

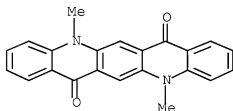
(electron capture layer doped with; organic electroluminescent devices employing plurality of organic layers selected so that the host organic material of the hole transport layer is prevented

from

deteriorating)

RN 19205-19-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



IC ICM H01L035-24

ICS H01L051-00

INCL 257040000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)

Section cross-reference(s): 22, 76

IT Electroluminescent devices

(white-emitting; organic electroluminescent

devices employing plurality of organic layers selected so that the  
host organic material of the hole transport layer is prevented

from

deteriorating)

IT 517-51-1, Rubrene 19205-19-7, Dimethylquinacridone

RL: DEV (Device component use); MOA (Modifier or additive use); PEP  
(Physical, engineering or chemical process); PRP (Properties); PYP  
(Physical process); PROC (Process); USES (Uses)(electron capture layer doped with; organic electroluminescent  
devices employing plurality of organic layers selected so that the  
host organic material of the hole transport layer is prevented

from

deteriorating)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L51 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:150671 HCAPLUS Full-text

DN 138:212563

TI White organic light-emitting  
devices with improved efficiency

IN Hatwar, Tukaram Kisan

PA Eastman Kodak Company, USA

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
PI	EP 1286569	A1	20030226	EP 2002-78223	200208 05
	EP 1286569	B1	20070606		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	US 20030068524	A1	20030410	US 2001-930050	200108 15
	US 6627333	B2	20030930		
	TW 550970	B	20030901	TW 2002-91114163	200206

JP 2003086380 A 20030320 JP 2002-234508

200208  
12

CN 1407635 A 20030402 CN 2002-129820

200208  
15

PRAI US 2001-930050 A 20010815

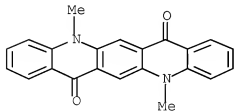
AB Organic light-emitting devices (OLEDs) producing substantially white light are described which comprise a substrate; an anode disposed over the substrate; a hole-injecting layer disposed over the anode; a hole-transport layer disposed over the hole-injecting layer; a light-emitting layer doped with a blue-light-emitting compound, disposed directly on the hole-transport layer; an electron-transport layer disposed over the blue-light-emitting layer; a cathode disposed over the electron-transport layer; the hole-transport layer, being selectively doped in a region which corresponds to an entire layer or a partial portion of a layer in contact with the blue-light-emitting layer, the selective doping being with a compound which emits light in the yellow region of the spectrum; and the electron-transport layer being selectively doped in a region which corresponds to an entire layer or a partial portion of a layer in contact with the blue-light-emitting layer, the selective doping being with a compound which emits light in the green region of the spectrum.

IT 19205-19-7, DMQA

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
(green dopant; white organic light-emitting devices with improved efficiency)

RN 19205-19-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



IC ICM H05B033-14

ICS H05B033-22; H05B033-28

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22, 76

ST white org light emitting device OLED

IT Amines, uses

RL: DEV (Device component use); USES (Uses)  
 (aryl, tertiary, hole-transporting layer; white organic light-emitting devices with improved efficiency)

IT Electroluminescent devices  
 (white-emitting; white organic light-emitting devices with improved efficiency)

IT 274905-73-6

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (TBADN; white organic light-emitting devices with improved efficiency)

IT 198-55-0, Perylene

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (blue dopant; white organic light-emitting devices with improved efficiency)

IT 126-73-8, TBP, properties

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (blue dopant; white organic light-emitting devices with improved efficiency)

IT 2085-33-8, Alq3

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (electron-transporting layer; white organic light-emitting devices with improved efficiency)

IT 19205-19-7, DMQA 155306-71-1, C 545T

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (green dopant; white organic light-emitting devices with improved efficiency)

IT 123847-85-8, NPB

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)



(hole-transporting layer; white organic light-emitting devices with improved efficiency)

IT 122648-99-1  
 RL: DEV (Device component use); USES (Uses)  
 (host material; white organic light-emitting devices with improved efficiency)

IT 197-74-0, Dibenzo[fg,qr]pentacene 80663-92-9, 2,5,8,11-Tetra-tert-butylperylene  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (white organic light-emitting devices with improved efficiency)

IT 517-51-1, Rubrene  
 RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)  
 (yellow dopant; white organic light-emitting devices with improved efficiency)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L51 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2002:386570 HCAPLUS Full-text  
 DN 137:161089  
 TI Color organic thin film electroluminescence and passive matrix display  
 AU Zhang, Zhi-lin; Jiang, Xue-yin; Zhang, Bu-xin; Zhu, Wen-qing; Zheng, Xin-you; Wu, You-Zhi; Xu, Shao-hong  
 CS School of Materials Science & Engineering, Shanghai University, Shanghai, 201800, Peop. Rep. China  
 SO Faguang Xuebao (2002), 23(1), 1-6  
 CODEN: FAXUEW; ISSN: 1000-7032  
 PB Kexue Chubanshe  
 DT Journal  
 LA Chinese  
 AB Green, red, blue and white organic light emitting diodes (OLEDs) were studied. Remarkable improvement in stability was demonstrated in doped green and red devices. The QA doped green OLED achieved a long life time of 14,000 h at initial luminance of 100 cd/m2. The red OLED doped with red dye DCJTb showed high stability; the half decay time reached 7,500 h at the initial luminance of 50 cd/m2. Three blue device were constructed as following: ITO/CuPc/NPB/TPBi/Alq/MgAg (Cell BT), ITO/CuPc/NPB/DPVBi:Perylene/Alq/MgAg (Cell BD), and ITO/CuPc/NPB/JBEM:Perylene/Alq/MgAg (Cell BJ). Here TPBi is a hole blocking material, DPVBi is a blue host, and JBEM is a new blue emitting material. On basis of the blue devices, putting the red dopant DCJTb into blue material TPBi, DPVBi, JBEM, or green host Alq,

4 white devices were produced. The blue and white cells with blocking layer TPBi had much shorter life time than that of the conventional cell. The blocking layer is not favorable to the stability of the device; it may be attributed to the high barrier between the hole transporting and blocking layers. For the blue devices with JBEM as the host or DPVBi as the host, the former has better stability than the latter, showing the life time of 1,035 h at initial luminance of 100 cd/m<sup>2</sup>. For the white OLEDs, just like the blue devices, the cell with JBEM as the host had better performance than that with DPVBi as the host, and the device with blue dye and red dye DCJTb in the same layer showed high stability, the half decay time reached 2846 h at initial luminance of 100 cd/m<sup>2</sup>. A green, white panel display with 96 + 60 pixels and resolution of 2 lines/mm is constructed. The driving circuit was designed to eliminate the cross-talk between the pixels, and a good image was realized.

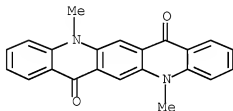
IT 19205-19-7, N,N'-Dimethylquinacridone

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(color organic film electroluminescence and passive matrix display doped with)

RN 19205-19-7 HCAPLUS

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-5,12-dimethyl- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22, 76

IT 198-55-0, Perylene 19205-19-7, N,N'-Dimethylquinacridone

85642-11-1, Coumarin 545

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

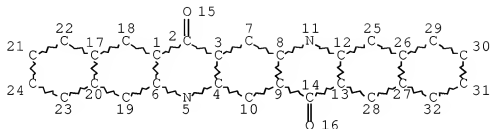
(color organic film electroluminescence and passive matrix display doped with)

NELSON 10/562,933

FORMULA 5

=> d que 19

L9 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 32

STEREO ATTRIBUTES: NONE

L52 4 L10

=> d 152 1-4 bib abs hitstr hitind

L52 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:432131 HCAPLUS Full-text

DN 146:411194

TI Fluorescent compounds showing high-purity white emission and electroluminescent devices therewith

IN Nakaya, Tadao; Sato, Mikura; Kodera, Toshihiro; Takano, Shinji; Eto, Naonobu

PA Hirose Engineering Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 56pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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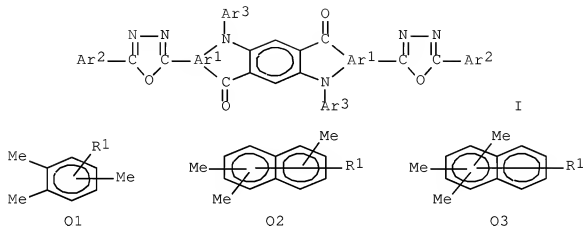
PI JP 2007099723 A 20070419 JP 2005-294228

200510  
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PRAI JP 2005-294228 20051006

OS MARPAT 146:411194

GI



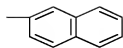
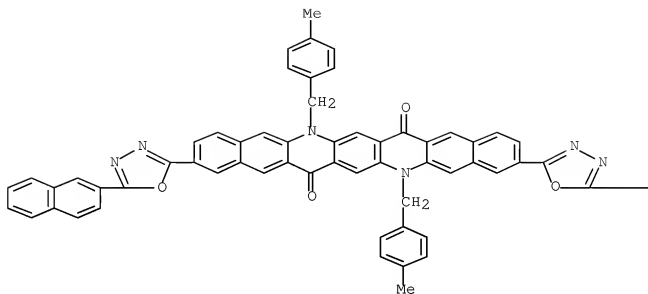
AB The title compds. are represented by I [Ar<sup>1</sup> = aromatic group chosen from Q1-Q3 (R<sup>1</sup> = C1-10 alkyl, carboxylic acid; each numbered bond connects to prescribed atoms of the compds.); Ar<sup>2</sup> = (un)substituted Ph, naphthalenyl, fluorenyl, pyrenyl, or perylenyl; Ar<sup>3</sup> = H, CH<sub>2</sub>Ar<sup>4</sup> [Ar<sup>4</sup> = H, C1-10-alkyl-(un)substituted Ph, naphthalenyl, anthracenyl, fluorenyl, pyrenyl, perylenyl]]. Electroluminescent devices containing the compds. in emitting layers between a pair of electrodes, are also claimed. The devices show high brightness, high white-color purity, and long service life.

IT 933783-30-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(emitting layers; quinacridone- or oxadiazole-type white-emitting fluorescent compds. for long-life and high-color-purity electroluminescent devices)

RN 933783-30-3 HCAPLUS

CN Benzo[b]benzo[6,7]quino[3,2-i]acridine-8,17-dione,  
6,15-dihydro-6,15-bis[(4-methylphenyl)methyl]-2,12-bis[5-(2-naphthalenyl)-1,3,4-oxadiazol-2-yl]- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 27

IT 933783-28-9P 933783-29-0P 933783-30-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (emitting layers; quinacridone- or oxadiazoline-type white-emitting fluorescent compds. for long-life and high-color-purity electroluminescent devices)

L52 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:14398 HCAPLUS Full-text

DN 142:102856

TI White-emitting compounds, process for the production thereof, and white-emitting devices

IN Nakaya, Tadao; Ikeda, Atsushi; Sato, Mitsukura; Saikawa, Tomoyuki

PA Hirose Engineering Co., Ltd., Japan

SO PCT Int. Appl., 121 pp.

CODEN: PIXXD2

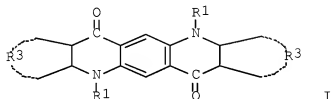
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2005000847	A1	20050106	WO 2004-JP8871	20040624
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	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2005035965	A	20050210	JP 2003-298589	20030822
	EP 1650208	A1	20060426	EP 2004-746340	20040624
	R: DE, FR, GB				
	CN 1802374	A	20060712	CN 2004-80015138	20040624
	US 20060152143	A1	20060713	US 2005-562933	

PRAI JP 2003-188972 A 20030630  
JP 2003-298589 A 20030822  
WO 2004-JP8871 W 20040624  
OS MARPAT 142:102856  
GI



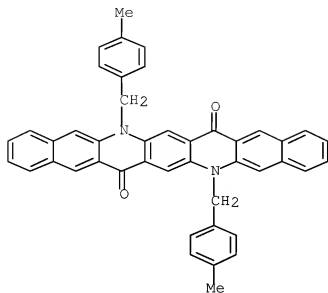
AB The invention provides white-emitting compds. which are novel substances capable of emitting white light in spite of their being single compds., a process by which such novel white-emitting compds. can be easily produced; and white-emitting devices containing the single white-emitting compds. The white-emitting compds. are characterized by being I wherein R1 is H, C1-10 alkyl, or specific aryl with the proviso that the case wherein both R1's are H is excluded, and R3 is the residue derived from (un)substituted benzene, naphthalene, anthracene and pyrene.

IT 817204-66-3P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(white-emitting compds. for electroluminescent device)

RN 817204-66-3 HCAPLUS

CN Benzo[b]benzo[6,7]quino[3,2-i]acridine-8,17-dione,  
6,15-dihydro-6,15-bis[(4-methylphenyl)methyl]- (CA INDEX NAME)



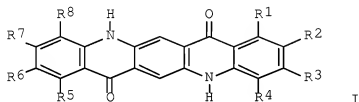
IC ICM C07D471-04  
ICS H05B033-14  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 27  
IT 56571-57-4P 817204-63-0P 817204-66-3P 817204-70-9P  
817204-73-2P 817204-75-4P 817204-79-8P 817204-80-1P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(white-emitting compds. for electroluminescent device)  
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1999:277620 HCAPLUS Full-text  
DN 130:344887  
TI Organic electroluminescent device containing alkylene-substituted quinacridone derivative  
IN Nakatsuka, Masakatsu; Kitamoto, Noriko  
PA Mitsui Chemicals Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 11121175	A	19990430	JP 1997-277642
	JP 3778672	B2	20060524	
PRAI	JP 1997-277642		19971009	
OS	MARPAT 130:344887			
GI				

199710  
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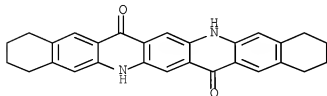
AB The device contains a quinacridone derivative I [R1-8 = H, halo, alkyl (oxy), aryl, ≥1 pair of them forms alicyclic ring] preferably in an emission layer or in an electron-injecting and -transporting layer. The I-containing layer may include a luminescent metal complex. The I showed good adhesion to a cathode and improved the device life.

IT 224302-63-0

RL: DEV (Device component use); USES (Uses)  
(high-luminance electroluminescent device containing  
alkylene-substituted quinacridone derivative)

RN 224302-63-0 HCAPLUS

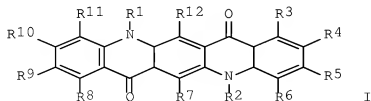
CN Benzo[b]benzo[6,7]quino[3,2-i]acridine-8,17-dione,  
1,2,3,4,6,10,11,12,13,15-decahydro- (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C09K011-06; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 28  
 IT 2085-33-8, Tris(8-quinolinolato)aluminum 146162-48-3,  
 Bis(2,4-dimethyl-8-quinolinolato)aluminum-μ-oxobis(2,4-dimethyl-8-quinolinolato)aluminum 224302-49-2 224302-54-9 224302-58-3  
 224302-60-7 224302-63-0 224302-65-2 224302-69-6  
 224302-72-1 224302-75-4 224302-78-7  
 RL: DEV (Device component use); USES (Uses)  
 (high-luminance electroluminescent device containing  
 alkylene-substituted quinacridone derivative)

L52 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1997:165209 HCAPLUS Full-text  
 DN 126:192684  
 TI Organic electroluminescent phosphors  
 IN Tamano, Michiko; Onikubo, Shunichi; Enokida, Toshio  
 PA Toyo Ink Mfg Co, Japan  
 SO Jpn. Kokai Tokkyo Koho, 21 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO. ----- -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
PI	JP 09013026	A	19970114	JP 1996-107452	199604 26
	JP 3509383	B2	20040322		
PRAI	JP 1995-105220	A	19950428		
OS	MARPAT 126:192684				
GI					

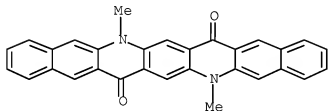


AB A long-life high-luminance electroluminescent phosphor is represented by a quinacridone derivative I(R1,2 = alkyl, aromatic ring; R3-12 = H, halo, alkyl, alkoxy, thioalkoxy, CN, (substituted) amino, OH, mercapto, aryloxy, arylthio, alkyl ring, aromatic ring, heterocyclic ring).

IT 186890-16-4  
 RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (electroluminescent quinacridone derivative phosphors)

RN 186890-16-4 HCAPLUS

CN Benzo[b]benzo[6,7]quino[3,2-i]acridine-8,17-dione,  
 6,15-dihydro-6,15-dimethyl- (CA INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 19205-19-7 67605-76-9 99762-78-4 99762-80-8 99762-81-9  
 186889-90-7 186889-91-8 186889-92-9 186889-93-0 186889-94-1  
 186889-95-2 186889-96-3 186889-97-4 186889-99-6  
~~186890-16-4~~

RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (electroluminescent quinacridone derivative phosphors)

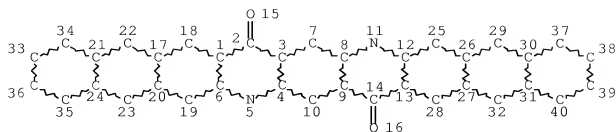
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## FORMULA 6

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L15

STR



## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 40

STEREO ATTRIBUTES: NONE

L53 1 L16

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L53 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:14398 HCAPLUS Full-text

DN 142:102856

TI White-emitting compounds, process for the production thereof, and white-emitting devices

IN Nakaya, Tadao; Ikeda, Atsushi; Sato, Mitsukura; Saikawa, Tomoyuki

PA Hirose Engineering Co., Ltd., Japan

SO PCT Int. Appl., 121 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2005000847	A1	20050106	WO 2004-JP8871	

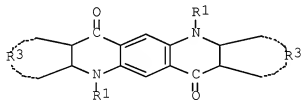
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24

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 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,  
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
 MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,  
 SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,  
 VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,  
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
 GW, ML, MR, NE, SN, TD, TG

JP 2005035965	A	20050210	JP 2003-298589	200308 22
EP 1650208	A1	20060426	EP 2004-746340	200406 24
R: DE, FR, GB CN 1802374	A	20060712	CN 2004-80015138	200406 24
US 20060152143	A1	20060713	US 2005-562933	200512 30
PRAI JP 2003-188972	A	20030630		
JP 2003-298589	A	20030822		
WO 2004-JP8871	W	20040624		
OS MARPAT 142:102856				
GI				



I

AB The invention provides white-emitting compds. which are novel substances capable of emitting white light in spite of their being single compds., a process by which such novel white-emitting compds. can be easily produced; and white-emitting devices containing the single white-emitting compds. The white-emitting compds. are

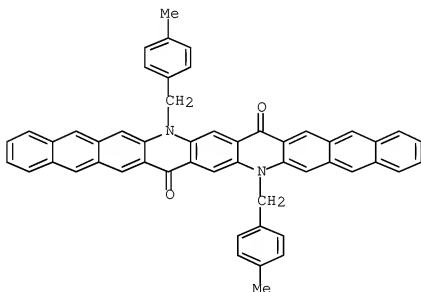
characterized by being I wherein R1 is H, C1-10 alkyl, or specific aryl with the proviso that the case wherein both R1's are H is excluded, and R3 is the residue derived from (un)substituted benzene, naphthalene, anthracene and pyrene.

IT 817204-70-9P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(white-emitting compds. for electroluminescent device)

RN 817204-70-9 HCAPLUS

CN Naphtho[2,3-b]naphtho[2',3':6,7]quino[3,2-i]acridine-9,20-dione,  
7,18-dihydro-7,18-bis[(4-methylphenyl)methyl]- (CA INDEX NAME)



IC ICM C07D471-04

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 27

IT 56571-57-4P 817204-63-0P 817204-66-3P 817204-70-9P

817204-73-2P 817204-75-4P 817204-79-8P 817204-80-1P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(white-emitting compds. for electroluminescent device)

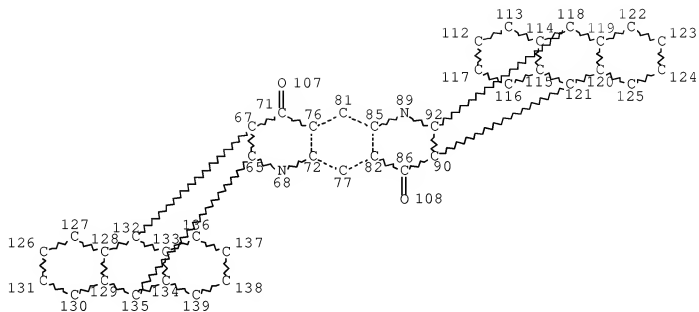
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

NELSON 10/562,933

FORMULA 7

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NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 44

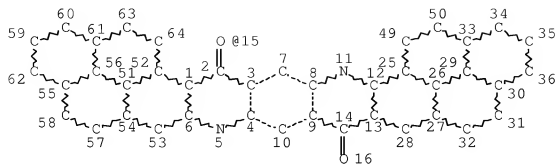
STEREO ATTRIBUTES: NONE

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FORMULA 8

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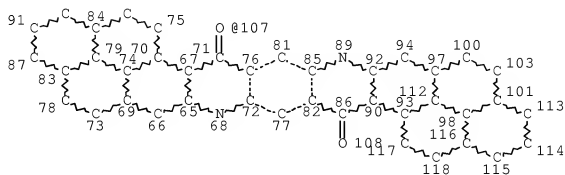
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Page 1-A



Page 2-A

VAR G1=15/107

NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I



NELSON 10/562,933

NUMBER OF NODES IS 89

STEREO ATTRIBUTES: NONE

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